THE COMPUTER
LECTURE 2
DR. HERLINA JAYADIANTI. ST.MT

HTTPS://WWW.SOLIDER.ID/BACA/5686-MAHASISWA-TULI-UPN-YOGYAKARTA-RANCANG-APLIKASI-BELAJAR-BAHASA-ISYARAT

BERITA

Mahasiswa Tuli UPN Yogyakarta, Rancang Aplikasi Belajar Bahasa Isyarat

Mahasiswa Tuli UPN Yogyakarta, Rancang Aplikasi Belajar Bahasa Isyarat

- 10 January 2020

Solider.id, Yogyakarta- Universitas Pembangunan Nasional (UPN) "Veteran" Yogyakarta, kembali menelorkan mahasiswa dengan hasil karya tugas akhir berupa rancangan aplikasi belajar bahasa isyarat, berbasis android. Kali in apikasis tersebut dirancang oleh Cinthya Rizki Anindita. Ia adalah satu-satunya mahasiswa tuli di Program Studi Teknik Informatika, Fakultas Teknik Informatika, UPN Veteran Yogyakarta.

Cinthya, nama paggilannya, juga menjadi mahasiswa tuli pertama di UPN Veteran Yogyakarta. Mahasiswa kedua yang merancang aplikasi pembelajaran bahasa isyarat berbasis adroid. Aplikasi itu dirancang sebagai media belajar bahasa isyarat bagi siswa tuli yang tidak bisa berbahasa isyarat. Sebelumnya ada Rangga, yang menciptakan aplikasi bagi awam belajar isyarat.

Usai mempertahakan karya tugas akhir, Rabu (8/1/2020) ia menyempatkan berbicang dengan Solider. "Ada! Banyak tuli yang tidak bisa bahasa isyarat, saya salah satunya." Ujarnya menjawab pertayaan Solider terkait keberadaan tuli yang tidak bisa berbahasa isyarat.

Menurutnya, tuli yang sekolah di sekolah tertentu (SLB Wonosobo, SLB Karna Mannohara Yogyakarta, SLB Santirama Jakarta, juga sekolah-sekolah umum), mereka tidak diajarkan bahasa isyarat. Degan demikian tidak semua tuli berkomunikasi dengan bahasa isyarat.

Cinthya, sedari usianya 5 tahun sudah bersekolah di SLB Dena Upakara, Wonosobo. SLB khusus tuli itu tidak menggunakan bahasa isyarat sebagai sarana berkomunikasi. Melainkan mengajarkan siswa tuli berkomunikasi verbal atau oral.

Sembilan tahun atau hingga lulus sekolah dasar, Cinthya belajar di sana. Kemudian melanjutkan sekolah di SMP Pangudi Luhur Klaten, berlanjut di SMK Kristen I Klaten. Praktis Cinthya terbiasa berkomunikasi verbal, dengan memperhatikan gerak bibir lawan bicaranya.

Lantas menjadi mahasiswa UPN Veteran Yogyakarta. Di Kota ini, Cinthya lebih sering bertemu dengan tuli berbahasa isyarat. Kesulitan berkomunikasi dialaminya. Kodisi ini melatarbelakangi peciptaan aplikasi tersebut. Demikian keterangan Cinthya kepada Solider terkait peciptaan karya tugas akhirnya.

Memberi warna

DR. Herlina Jayadiyanti, ST., MT., salah seorang dosen pembimbing mengatakan bahwa sejauh ini Cinthya telah memberi warna. "Bukan Cinthya yang belajar dari kami, tetapi kami yang belajar dari Cinthya. Dia telah mampu memberi warna di kampus ini," ujarnya.

Lanjutnya, Cinthya itu sama dengan mahasiswa lain. Punya cita-cita, punya semangat. Dia harus mendapat banyak dukungan. Karena, kata dia, semangat jikalau tidak didukung, maka akan berat. Terutama ketika di kelas. "Tugas Akhir (TA) hanyalah satu mata kuliah di akhir studi, sedang mata kuliah yang dilalui bayak. Dia bisa mecapai TA setelah melampaui seluruh mata kuliah lain," tandasnya.

SUBHEADINGS

Read English newspaper every day

Listen to English songs

Do more gramm
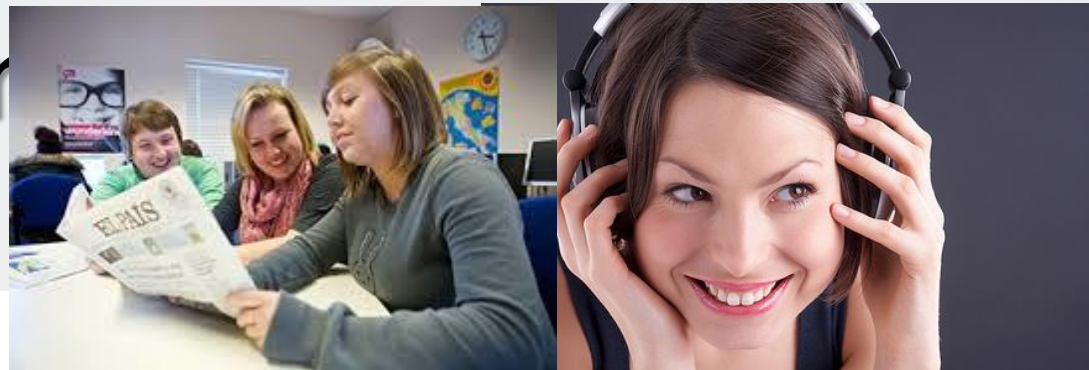
READ ENGLISH NEWSPAPER EVERY DAY

Good points/ Benefits/ Advantages?
Refer to the work sheet , tick the possible reasons.

CORRECT ANSWERS

Reading English newspaper can improve your vocabulary.

Reading English newspaper can broaden your horizons.

If you read English newspaper every day, you will understand what is happening around you.

It is necessary for learners to read English newspaper every day, because they can learn more spelling and grammar.

It is useful for young students to read English newspaper every day to improve their knowledge of vocabulary.

I would suggest reading English newspaper every day to improve your reading skills and writing skills.

I would recommend reading English newspaper every day so that you can learn more about how to write good sentences.

LISTEN TO ENGLISH SONGS

What can listening to English songs help you improve your English proficiency?

good sentences with the given words.

SAMPLE SENTENCES

Listening to English songs **is** a relaxing and enjoyable activity.

If *you* **turn** on the radio or television, *you* **can learn** English without pain.

Listening to English songs **can help** you learn a lot of vocabulary and pronunciation.

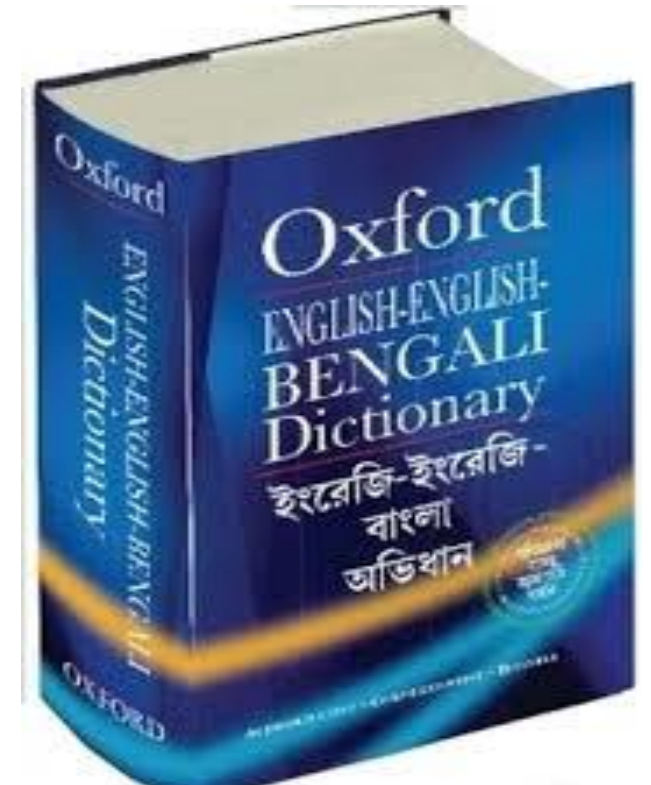*The melodies of the songs* **can help** you remember a lot of vocabulary easily.

You **can learn** English at any time, for example, on a bus, on a train **when** *you* **are** on your way to school.

DO MORE GRAMMAR EXERCISES

A lot of people hate doing grammar exercise because…

However, grammar is ….. part of learning English.

Drilling of grammar exercises will ….

WRITING A SPEECH

Write a speech to your fellow univmates to give them some advice on how to improve their English.

Give new suggestions:

- Watching English television programmes
- Talking to native English speakers
- Reading English novels

BEGINNING OF A SPEECH

Good morning, fellow univmates, recently I've heard from some students that they find studying English very boring and demanding.

As the **Chairperson of the English Club**, here I'd like to give you some advice to solve your problems.

VOLUNTEER ☺

3 SUGGESTIONS, 3 CONNECTIVES

To commence with, you can (verb)…

- To commence with, you can learn English by watching English television programmes.

In addition, why don't you (verb)…

- In addition, why don't you learn English by talking to native English speakers.

Last but not least, it would be very interesting and useful to (verb)…

- Last but not least, it would be very interesting and useful to learn English by reading English novels.

WATCHING ENGLISH TELEVISION PROGRAMMES

BBC

National Geographic

NBC news

etc

TALKING TO ENGLISH NATIVE SPEAKERS

Speaking is a stressful activity.

With constant practice in speaking, we can overcome the anxieties and worries when we use English.

Native speakers can provide a good model for learning pronunciation and vocabulary.

WHAT IS
INFORMATICS ENGINEERING ?
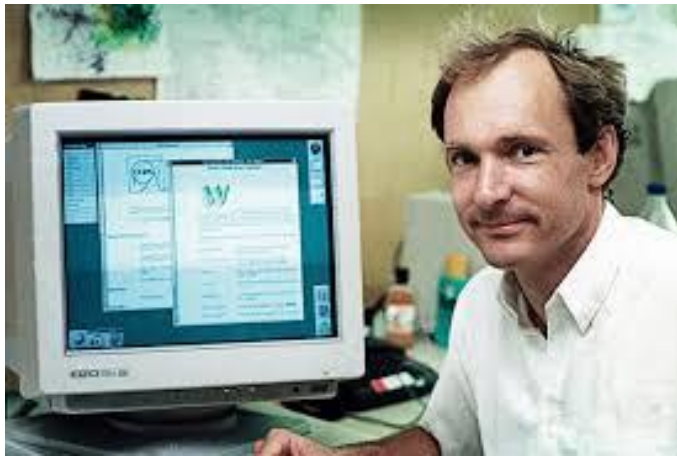
Ada Lovelace

Mathematician

Augusta Ada King-Noel, Countess of Lovelace was an English mathematician and writer, chiefly known for her work on Charles Babbage's proposed mechanical general-purpose computer, the Analytical Engine. Wikipedia

Born: December 10, 1815, London, United Kingdom

Died: November 27, 1852, Marylebone, United Kingdom

Full name: Augusta Ada King

Education: University of London

Children: Anne Blunt, 15th Baroness Wentworth, MORE ∨

Parents: Lord Byron, Annabella Byron, Baroness Byron

http://worldwebforum.com/display/B2/Tim+Berners+Lee

CONTENT

Hardware

Information storage
- RAM, ROM
- HD, DVD

Display
- Images
- Characters (fonts)

File system/type
- Encryption
- Compression

Network
- Protocols
- Packets

Programming
- Algorithm
- Pseudocode
- Flowchart

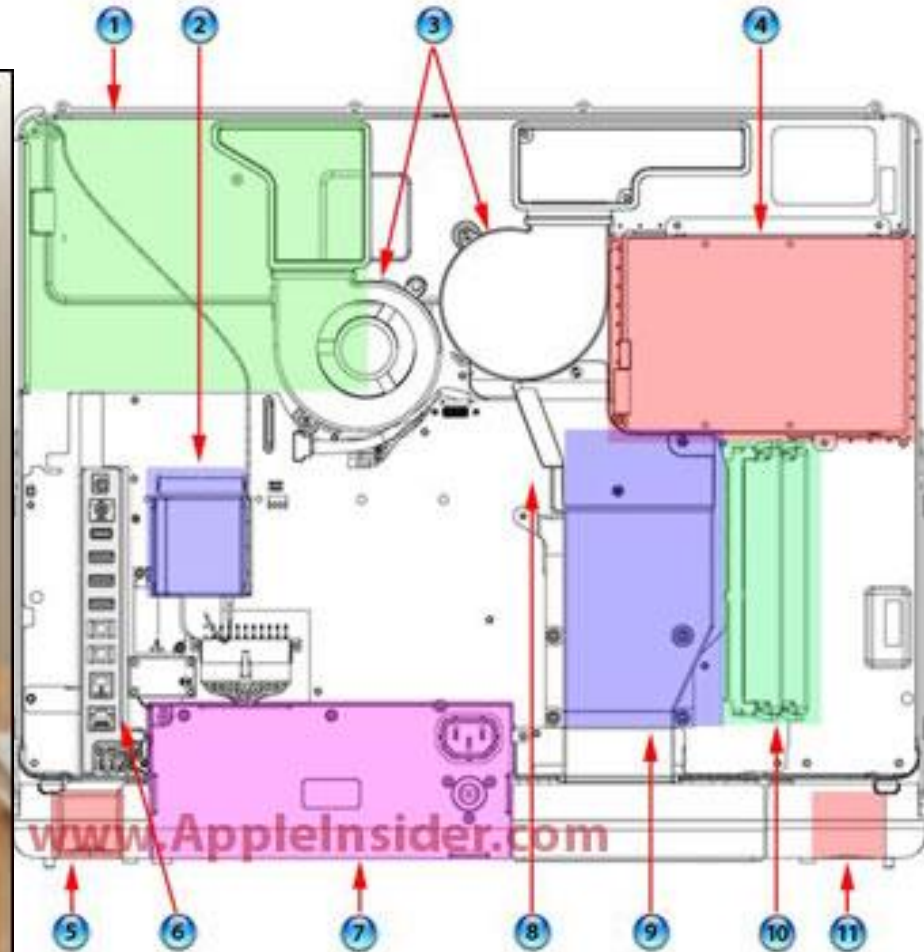Languages

Source code
- Example

"Never touch the screen while you're compressing a file!"

THE COMPUTER

CAN'T YOU DO ANYTHING RIGHT?

Copyright 2003 Randy Glasbergen.   www.glasbergen.com

INTERNALLY

1. Optical drive
2. AirPort Extreme Card slot
3. System blowers
4. Hard drive
5. Right speaker
6. I/O ports
7. Power supply
8. Diagnostic LEDs (approximate location)
9. Power PC G5 processor
10. DIMM slots
11. Left speaker

www.AppleInsider.com

THE CONNECTIONS

HD/DVD

Main engine axis

Head

Disc

Head supporting arm

Controller chip

Head engine

Internal cabling

Interface connector

Jumpers

Power supply connector
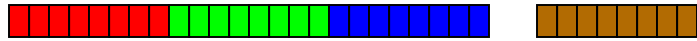
track

sector

head

©2000 How Stuff Works
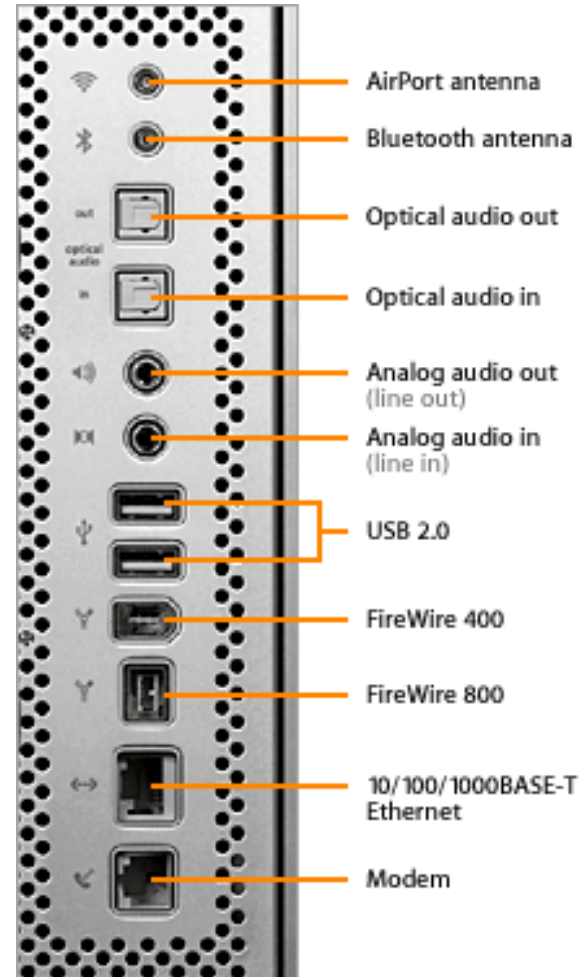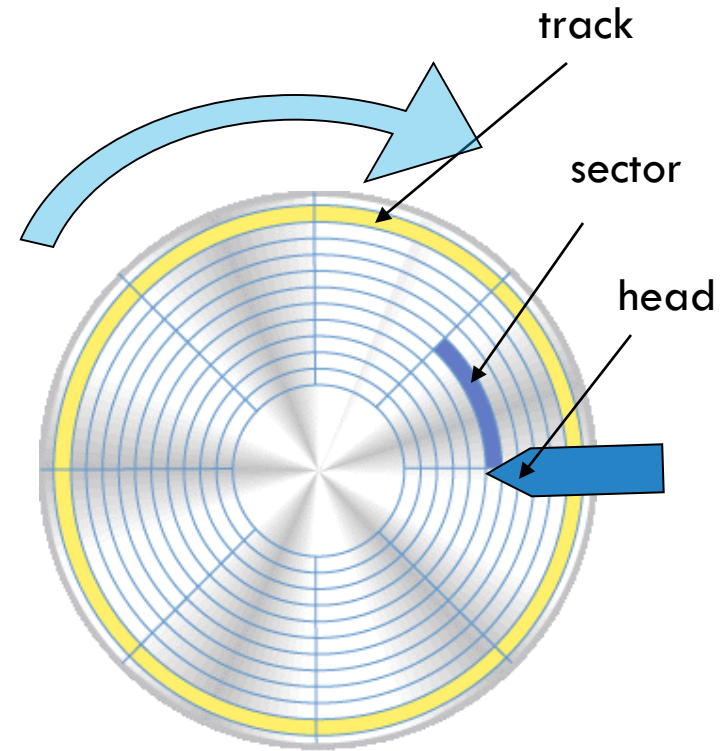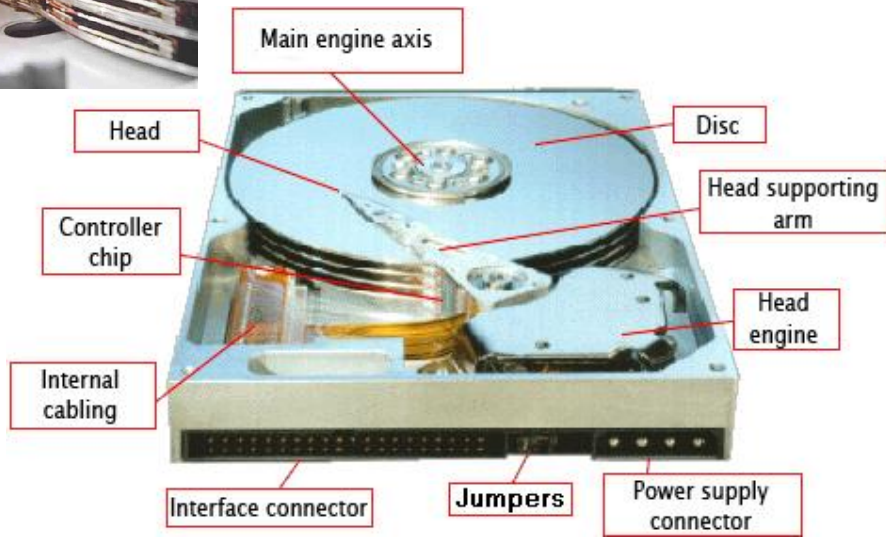
DISPLAY

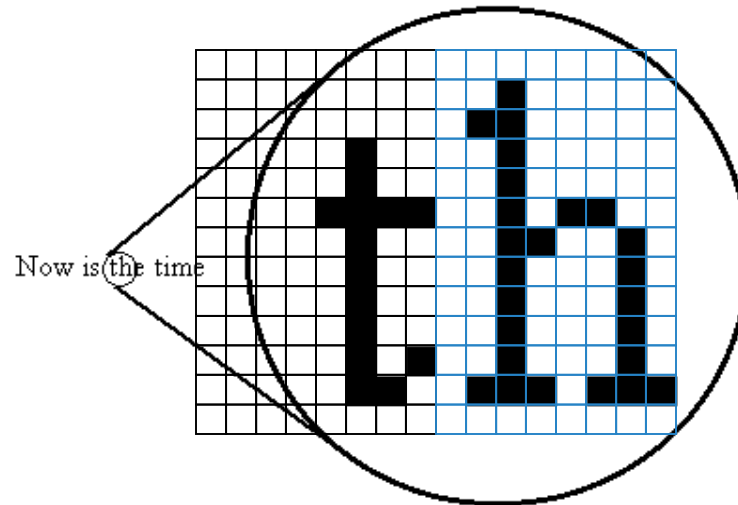Screen pixel or dots

Color coding: 32 bits

1 pixel = 3 bytes of color (RGB)+1 byte alpha channel (transparency)

1600x1200x4bytes=7,5 Mb!
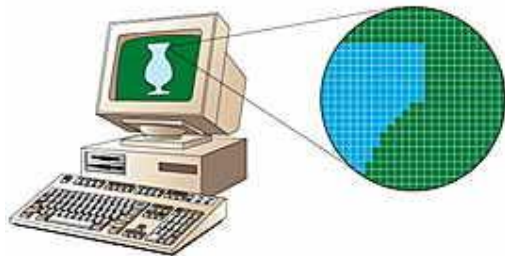
Fonts

- Bitmap

- Vectors
  - TrueType, OpenType, PostScript

Now is the time

KEYBOARD/MOUSE

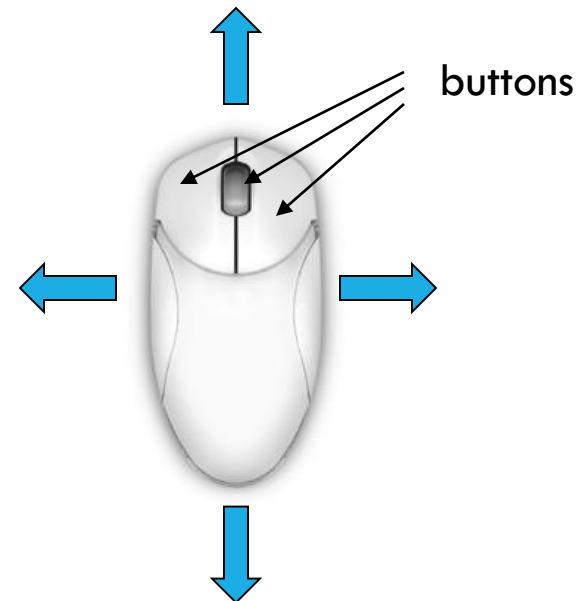Each key (or combination of keys) of the keyboard sends a code to the computer.

The code is interpreted and converted to the corresponding ASCII or Unicode number.

The mouse movements
- 1 to 4 bytes (vertical & horizontal)
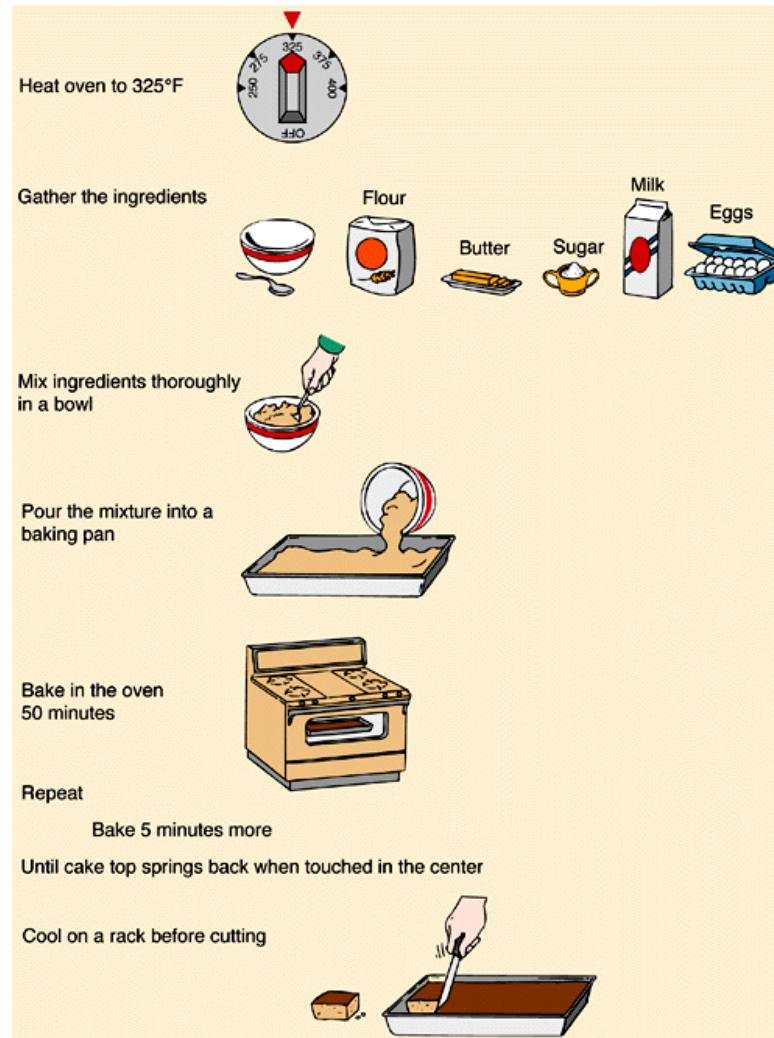
Buttons
- Clicked, pressed, rolled

buttons

WHAT IS A PROGRAM?
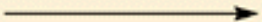
How to cook?

The algorithm

Are you a programmer?

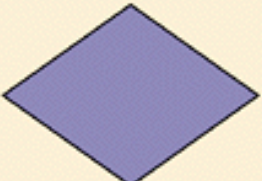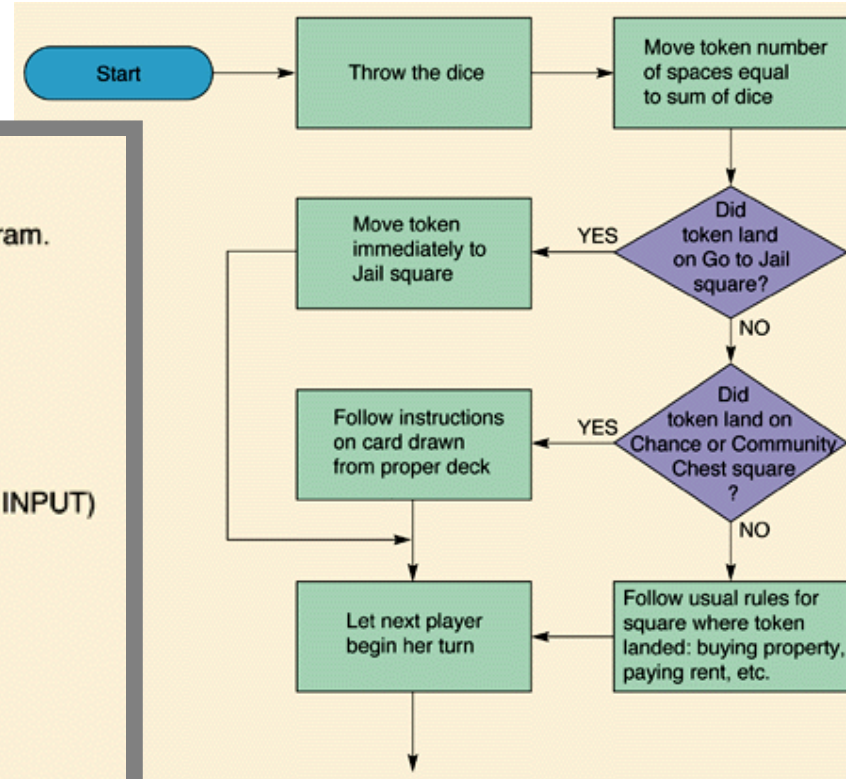# PSEUDOCODE

This is the p

```
Main Procedure Monopoly_Game
    Hand out each player's initial money.
    Decide which player goes first.
    Repeat
        Call Procedure Monopoly_Move for next player.
        Decide if this player must drop out.
    Until all players except one have dropped out.
    Declare the surviving player to be the winner.

Procedure Monopoly_Move
    Begin one's move.
    Throw the dice.
    Move the number of spaces on the board shown on the dice.
    If the token landed on "Go to Jail,"
        then go there immediately.
    Else if the token landed on "Chance" or "Community Chest,"
        then draw a card and follow its instructions.
    Else
        follow the usual rules for the square (buying property,
        paying rent, collecting $200 for passing "Go", etc.).
    End one's move.
```

FLOWCHARTS

Name	Symbol	Use in flowchart
Oval		Denotes the beginning or end of a program.
Flow line	→	Denotes the direction of logic flow in a program.
Parallelogram		Denotes either an input operation (e.g., INPUT) or an output operation (e.g, PRINT).
Rectangle		Denotes a process to be carried out (e.g., an addition).
Diamond		Denotes a decision (or branch) to be made. The program should continue along one of two routes (e.g., IF/THEN/ELSE).

Start → Throw the dice → Move token number of spaces equal to sum of dice

Did token land on Go to Jail square? — YES → Move token immediately to Jail square

NO → Did token land on Chance or Community Chest square? — YES → Follow instructions on card drawn from proper deck

NO → Follow usual rules for square where token landed: buying property, paying rent, etc.

Let next player begin her turn

FLOWCHARTS DETAILS
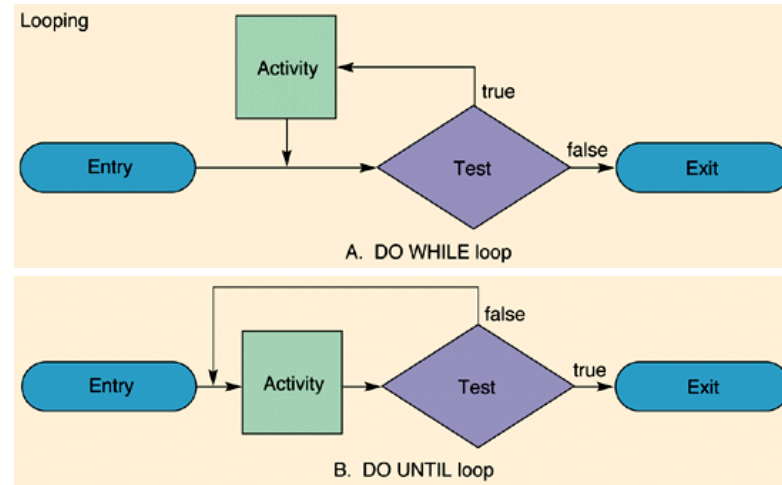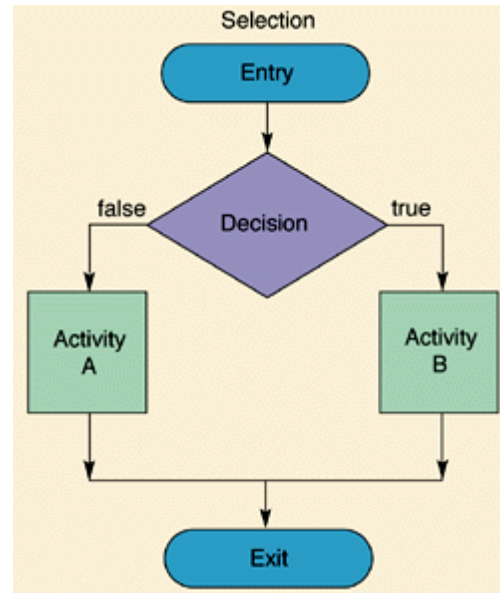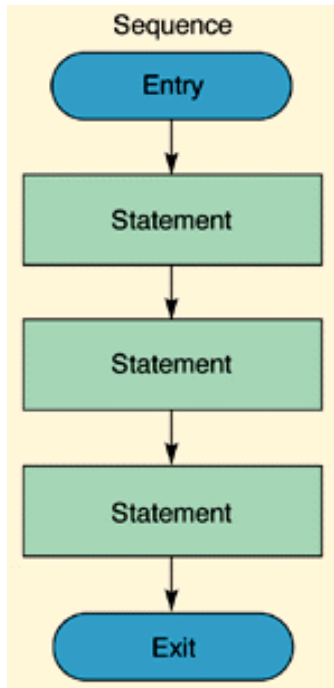
LANGUAGES

Low level (processor dependent)
- Machine code, assembler

High level: structured, procedural
- Fortran, C, Pascal…

High level: object oriented
- C++, Java, C#, Perl, Objective-C…

Virtual machines
- Java, C#…

Scripting
- Perl, Python, JavaScript…

SOURCE CODE -> OBJECT CODE

Compiler+linker
- Fortran, C, Pascal, C++…

Interpreter
- Basic, Perl…

Intermediate
- Java

- Compiler+linker
  - Fast to execute, but slow to debug
- Interpreter
  - Slow to execute, but fast to debug (no need to recompile)
- Intermediate
  - Slow…

SOURCE CODE

Instructions

- Statement, blocks
- Affectation
- Operators
- Loops
- Tests
- Subroutines
- Comments

Data structures

- Variable
- List
- Array
- Hash
- Pointers
- Objects

SOURCE CODE (2)

Statement, blocks

- One or more instructions for the processor

Affectation

- Change to a variable

Operator

- affect one or more variable
  - + * - / AND OR NOT…

Variable

- A region in memory that can be modified
- Exists in different types
  - Scalar, char, numeric, boolean
  - List, array
  - Hash
  - Combination->data structure

SOURCE CODE (3)

Loops
- Allow the computer to repeat blocks

Tests
- Decide what to do

Subroutines
- Programs frequently called (functions)

Comments
- The most important lines of the source code…

Pointers
- Reference to region in memory (address)

Objects
- Combination of data and code

SOURCE CODE EXAMPLE

```perl
#!/usr/bin/perl -w   # essential line of all perl scripts

$filename = "avoid.txt"; # affect « avoid.txt » to the variable $filename

# open the file, or exit
open(FILE, $filename) || die "Cannot open file '$filename'\n\n";
@text = <FILE>; # add each line of the file to an array
close FILE;

foreach $line (@text) {  # read one line from the array into $line and repeat for each line
        @table = split(//,$line); # read each character of the line in an array
        while ($char=pop(@table)) { # read one character of the array 'table' and repeat for all
          $char =~ s/[^a-z]//; # keep only the alphabetical character a to z
          if ($char) {    # check if the character exists and execute the block
                  $count{$char}++; # if yes, increment by one the hash 'count'
          }
        }
}

# print each character and its number of occurence one per line
foreach $c (keys %count) {
        print "$c=$count{$c}\n";
}
exit; # quit the program
```